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## MINOR SOURCE OPERATING PERMIT OFFICE OF AIR QUALITY

**Forest River, Inc., Goshen  
1402 Lincolnway Avenue  
Goshen, Indiana 48527**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP 039-16466-00470	
Issued by: Original signed by Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: May 13, 2003  Expiration Date: May 13, 2008

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## SECTION A

## SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

### A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

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The Permittee owns and operates a stationary recreational vehicle manufacturing plant.

Authorized Individual:	Plant Manager
Source Address:	1402 Lincolnway, Goshen, Indiana 46527
Mailing Address:	P.O. Box 3030, Elkhart, Indiana 46515
General Source Phone:	574-533-5934
SIC Code:	3792
County Location:	Elkhart
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Minor Source, under PSD Rules; Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

### A.2 Emissions Units and Pollution Control Equipment Summary

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This stationary source is approved to operate the following emissions units and pollution control devices:

- (a) One (1) assembly area for coating recreational vehicles, with a maximum manufacturing capacity of one and half (1.5) vehicles per hour. This facility was constructed prior to 1979.
- (b) One (1) cabinet woodworking shop consisting of table saws, radial arm saws, and chop saws using prefinished lumber with a maximum capacity of six hundred (600) pounds per hour and exhausting to one (1) stack. This facility was constructed prior to 1979.
- (c) One (1) boiler, burning natural gas, with a maximum heat input capacity of 2.0 million British thermal unit (MMBtu/hr), exhausting at one (1) stack. This facility was constructed prior to 1977.

## **SECTION B                      GENERAL CONDITIONS**

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

### **B.1      Permit No Defense [IC 13]**

This permit to operate does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

### **B.2      Definitions**

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

### **B.3      Effective Date of the Permit [IC13-15-5-3]**

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

### **B.4      Permit Term and Renewal [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5]**

This permit is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions of this permit do not affect the expiration date.

The Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date. If a timely and sufficient permit application for a renewal has been made, this permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied.

### **B.5      Modification to Permit [326 IAC 2]**

All requirements and conditions of this operating permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

### **B.6      Annual Notification [326 IAC 2-6.1-5(a)(5)]**

- (a) Annual notification shall be submitted to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.
- (c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:  
  
Compliance Branch, Office of Air Quality  
Indiana Department of Environmental Management  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, IN 46206-6015
- (d) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

**B.7 Preventive Maintenance Plan [326 IAC 1-6-3]**

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- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, including the following information on each emissions unit:

- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
- (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
- (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

The PMP extension notification does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall implement the PMPs as necessary to ensure that failure to implement a PMP does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) A copy of the PMP's shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMP whenever lack of proper maintenance causes or contributes to any violation. The PMP does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

**B.8 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]**

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- (a) Permit revisions are governed by the requirements of 326 IAC 2-6.1-6.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1.

- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

**B.9 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)][IC 13-14-2-2]**

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Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;
- (c) Inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

**B.10 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]**

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Pursuant to [326 IAC 2-6.1-6(d)(3)] :

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAQ, Permits Branch, within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAQ, shall issue a revised permit.

**B.11 Annual Fee Payment [326 IAC 2-1.1-7]**

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- (a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing.
- (b) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, I/M & Billing Section), to determine the appropriate permit fee.

## SECTION C

## SOURCE OPERATION CONDITIONS

Entire Source
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C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) pounds per hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), the allowable particulate emissions rate from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Permit Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation of Permits), this permit operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.3 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.4 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.5 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using good engineering practices (GEP) pursuant to 326 IAC 1-7-3.



**C.6 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]**

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- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
  - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
  - (2) If there is a change in the following:
    - (A) Asbestos removal or demolition start date;
    - (B) Removal or demolition contractor; or
    - (C) Waste disposal site.

- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management  
Asbestos Section, Office of Air Quality  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by an "authorized individual" as defined by 326 IAC 2-7-1(34).

- (e) **Procedures for Asbestos Emission Control**  
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Indiana Accredited Asbestos Inspector**  
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement that the inspector be accredited, pursuant to the provisions of 40 CFR 61, Subpart M, is federally enforceable.

## Testing Requirements

### C.7 Performance Testing [326 IAC 3-6]

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- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date.

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual date.
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

## Compliance Requirements [326 IAC 2-1.1-11]

### C.8 Compliance Requirements [326 IAC 2-1.1-11]

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The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U.S. EPA.

## Compliance Monitoring Requirements

### C.9 Compliance Monitoring [326 IAC 2-1.1-11]

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Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

### C.10 Monitoring Methods [326 IAC 3][40 CFR 60][40 CFR 63]

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Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60, Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

## Record Keeping and Reporting Requirements

### C.11 Malfunctions Report [326 IAC 1-6-2]

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Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations

or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.

- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

#### C.12 Emission Statement [326 IAC 2-6]

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- (a) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that must be received by April 15 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual emission statement shall meet the following requirements:
  - (1) Indicate estimated actual emissions of criteria pollutants from the source, in compliance with 326 IAC 2-6 (Emission Reporting);
  - (2) Indicate estimated actual emissions of other regulated pollutants (as defined by 326 IAC 2-7-1) from the source, for purposes of Part 70 fee assessment.
- (b) The annual emission statement covers the twelve (12) consecutive month time period starting December 1 and ending November 30. The annual emission statement must be submitted to:

Indiana Department of Environmental Management  
Technical Support and Modeling Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015
- (c) The annual emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

The submittal by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

#### C.13 General Record Keeping Requirements [326 IAC 2-6.1-5]

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- (a) Records of all required data, reports and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for

records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented when operation begins.

**C.14 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]**

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- (a) Reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (c) Unless otherwise specified in this permit, any reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. The reports do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

## SECTION D.1

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]:

- (a) One (1) assembly area for coating recreational vehicles with a maximum manufacturing capacity of one and half (1.5) vehicles per hour. This facility was constructed prior to 1979.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards

#### D.1.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2(d)]

Any change or modification which would increase actual usage to greater than five (5) gallons of coating per day for the assembly area shall obtain prior approval from IDEM, OAQ and shall be subject to the requirements of 326 IAC 6-3.

### Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

#### D.1.2 Record Keeping Requirements

- (a) To document compliance with Condition D.1.1, the Permittee shall maintain daily records of the number of gallons of surface coating materials applied.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

## SECTION D.2

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]:

- (b) One (1) cabinet woodworking shop consisting of table saws, radial arm saws, and chop saws using prefinished lumber with a maximum capacity of six hundred (600) pounds per hour and exhausting to one (1) stack. This facility was constructed prior to 1979.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

## Emission Limitations and Standards

### D.2.1 Particulate [326 IAC 6-3]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emissions rate from the cabinet woodworking shop facility shall not exceed 1.83 pounds per hour when operating at a process weight rate of 600 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and  
P = process weight rate in tons per hour

## SECTION D.3

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]:

- (c) One (1) boiler, burning natural gas, with a maximum heat input capacity of 2.0 million British thermal unit (MMBtu/hr), exhausting at one (1) stack. This facility was constructed prior to 1977.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

## Emission Limitations and Standards

### D.3.1 Particulate Matter Limitation (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-2-3(e) (Particulate emission limitations for sources of indirect heating: emission limitations for facilities specified in 326 IAC 6-2-1(b)), the particulate emissions from the 2.0 MMBtu/hr boiler, which was constructed after June 8, 1972, shall in no case exceed 0.6 pounds of particulate matter per Million British Thermal units heat input.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH**

**MINOR SOURCE OPERATING PERMIT  
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under  
326 IAC 2-6.1-5(a)(5).

<b>Company Name:</b>	<b>Forest River, Inc., Goshen</b>
<b>Address:</b>	<b>1402 Lincolnway Avenue</b>
<b>City:</b>	<b>Goshen, Indiana 46527</b>
<b>Phone #:</b>	<b>574-533-5934</b>
<b>MSOP #:</b>	<b>039-16466-00470</b>

I hereby certify that Forest River, Inc., Goshen is **9** still in operation.

**9** no longer in operation.

I hereby certify that Forest River, Inc., Goshen is **9** in compliance with the requirements of MSOP 039-16466-00470

**9** not in compliance with the requirements of  
MSOP 039-16466-00470

<b>Authorized Individual (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Date:</b>

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

<b>Noncompliance:</b>



**MALFUNCTION REPORT**

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
FAX NUMBER - 317 233-5967**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6  
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ? \_\_\_\_\_, 25 TONS/YEAR SULFUR DIOXIDE ? \_\_\_\_\_, 25 TONS/YEAR NITROGEN OXIDES ? \_\_\_\_\_, 25 TONS/YEAR VOC ? \_\_\_\_\_, 25 TONS/YEAR HYDROGEN SULFIDE ? \_\_\_\_\_, 25 TONS/YEAR TOTAL REDUCED SULFUR ? \_\_\_\_\_, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ? \_\_\_\_\_, 25 TONS/YEAR FLUORIDES ? \_\_\_\_\_, 100 TONS/YEAR CARBON MONOXIDE ? \_\_\_\_\_, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ? \_\_\_\_\_, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ? \_\_\_\_\_, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ? \_\_\_\_\_, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ? \_\_\_\_\_. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION \_\_\_\_\_.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC \_\_\_\_\_ OR, PERMIT CONDITION # \_\_\_\_\_ AND/OR PERMIT LIMIT OF \_\_\_\_\_

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ?    Y        N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ?    Y        N

COMPANY: \_\_\_\_\_ PHONE NO. (    ) \_\_\_\_\_  
LOCATION: (CITY AND COUNTY) \_\_\_\_\_  
PERMIT NO. \_\_\_\_\_ AFS PLANT ID: \_\_\_\_\_ AFS POINT ID: \_\_\_\_\_ INSP: \_\_\_\_\_  
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND  
REASON: \_\_\_\_\_

DATE/TIME MALFUNCTION STARTED: \_\_\_\_/\_\_\_\_/20\_\_\_\_        AM /PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: \_\_\_\_\_

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE \_\_\_\_/\_\_\_\_/20\_\_\_\_        AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO<sub>2</sub>, VOC, OTHER: \_\_\_\_\_

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: \_\_\_\_\_

MEASURES TAKEN TO MINIMIZE EMISSIONS: \_\_\_\_\_

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL\* SERVICES: \_\_\_\_\_

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: \_\_\_\_\_

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: \_\_\_\_\_

INTERIM CONTROL MEASURES: (IF APPLICABLE) \_\_\_\_\_

MALFUNCTION REPORTED BY: \_\_\_\_\_ TITLE: \_\_\_\_\_  
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

\*SEE PAGE 2

**Please note - This form should only be used to report malfunctions  
applicable to Rule 326 IAC 1-6 and to qualify for  
the exemption under 326 IAC 1-6-4.**

**326 IAC 1-6-1 Applicability of rule**

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

**326 IAC 1-2-39 "Malfunction" definition**

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

**\*Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

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## **Indiana Department of Environmental Management Office of Air Quality**

### **Technical Support Document (TSD) for a Minor Source Operating Permit**

#### **Source Background and Description**

Source Name: Forest River, Inc., Goshen  
Source Location: 1402 Lincolnway Avenue, Goshen, Indiana 46527  
County: Elkhart  
SIC Code: 3792  
Operation Permit No.: 039-16466-00470  
Permit Reviewer: ERG/SD

The Office of Air Quality (OAQ) has reviewed an application from Forest River, Inc., Goshen relating to the operation of a recreational vehicle manufacturing plant.

#### **Permitted Emission Units and Pollution Control Equipment**

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) assembly area for coating recreational vehicles with a maximum manufacturing capacity of one and half (1.5) vehicles per hour. This facility was constructed prior to 1979.
- (b) One (1) cabinet woodworking shop consisting of table saws, radial arm saws, and chop saws using prefinished lumber with a maximum capacity of six hundred (600) pounds per hour and exhausting to one (1) stack. This facility was constructed prior to 1979.
- (c) One (1) boiler, burning natural gas, with a maximum heat input capacity of 2.0 million British thermal unit (MMBtu/hr), exhausting at one (1) stack. This unit was installed prior to 1977.

#### **Unpermitted Emission Units and Pollution Control Equipment**

There are no unpermitted facilities operating at this source during this review process.

#### **New Emission Units and Pollution Control Equipment Receiving Prior Approval**

There are no new construction activities included in this permit.

#### **Existing Approvals**

The source has been operating under previous approvals including, but not limited to, the following:

- (a) CP039-8970-00470, issued on December 10, 1997.

All conditions from previous approvals were incorporated into this permit.

### Enforcement Issue

- (a) IDEM is aware that equipment has been operated prior to receipt of the proper permit. The source should have submitted an application 90 days prior to December 10, 2002. The source is not in compliance with 326 IAC 2-6.1-3(b).
- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the operating permit rules.

### Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
A	natural gas heater vent	25'	6"	200	Ambient

### Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on 11/15/02, with additional information received on 01/27/03 and 01/28/03.

### Emission Calculations

See Appendix A of this document for detailed emissions calculations (Appendix A, page 1 through 6.)

### Potential To Emit of Source Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential To Emit (tons/year)
PM	4.5
PM-10	4.5
SO <sub>2</sub>	0.01
VOC	63.15
CO	0.77
NO <sub>x</sub>	0.92

HAPs	Potential To Emit (tons/year)
xylene	8.99
Other HAPs	8.71
Total HAPs	17.7

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all pollutants are less than 100 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of VOC, PM, and PM10 pollutants are greater than 25 tons per year, therefore, the source is subject to the provisions of 326 IAC 2-6.1. An MSOP will be issued.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year, therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (d) Fugitive Emissions  
Since this type of operation is not one (1) of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

### County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	Attainment
SO <sub>2</sub>	Attainment
NO <sub>2</sub>	Attainment
Ozone	Maintenance
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Elkhart County has been classified as attainment or unclassifiable for PM10, SO<sub>2</sub>, NO<sub>2</sub>, CO, and lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Fugitive Emissions  
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, 40 CFR 52.21, or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

### Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	86.63
PM10	86.63
SO <sub>2</sub>	0.01
VOC	63.15
CO	0.77
NO <sub>x</sub>	0.92

- (a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.
- (b) These emissions were based on information provided by the source (see Appendix A.)

### **Part 70 Permit Determination**

#### **326 IAC 2-7 (Part 70 Permit Program)**

This existing source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This status is based on the revised potential to emit calculations as shown in Appendix A.

### **Federal Rule Applicability**

- (a) One (1) boiler, burning natural gas, is not subject to the New Source Performance Standard, 40 CFR 60, Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (326 IAC 12), because it was constructed prior to June 9, 1989 and has not been modified or reconstructed.

There are no other New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

- (b) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), 40 CFR 63, Subpart JJ (326 IAC 14) because this source is not a major source of HAPs as defined in 40 CFR 63, Subpart A and does not manufacture wood furniture or wood furniture components.

### **State Rule Applicability - Entire Source**

#### **326 IAC 2-2 (Prevention of Significant Deterioration (PSD))**

This source was constructed prior to 1979 and is not in 1 of the 28 listed source categories. There have been no modifications since the source was built. The potential to emit of each criteria pollutant from the entire source is less than 250 tons per year. Therefore, this source is an existing minor source and the requirements of 326 IAC 2-2 are not applicable.

#### **326 IAC 2-6 (Emission Reporting)**

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than ten (10) tons per year of VOC and is located in Elkhart county. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

#### **326 IAC 5-1 (Opacity Limitations)**

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 8-6 (Organic Solvent Emission Limitations)

This source is not subject to 326 IAC 8-6-1 (Organic Solvent Emission Limitations) because the potential VOC emissions from the entire source is less than one hundred (100) tons per year.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The recreational vehicle manufacturing plant was constructed prior to July 27, 1997. Therefore, 326 IAC 2-4.1 does not apply.

**State Rule Applicability - Cabinet Woodworking Shop Facility**

326 IAC 6-3 (Particulate Emission Limitations from Manufacturing Processes)

This facility is subject to the requirements of 326 IAC 6-3-2(c) (Particulate Emission Limitations from Manufacturing Processes) because the cabinet woodworking shop facility has a process weight rate equal to six hundred (600) pounds per hour. The pound per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10P^{0.67} \quad \text{Where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

$$E = 4.10 \frac{600}{2000}^{0.67} = 1.83 \text{ pounds per hour}$$

Based on the emissions data provided by the source, the PM emissions are 0.83 pounds per hour. Therefore, the source will be in compliance with this rule.

**State Rule Applicability - Recreational Vehicle Surface Coating Facility**

326 IAC 8-1-6 (New Facilities - General Reduction Requirement)

This facility is not subject to 326 IAC 8-1-6 (General Reduction Requirement), even though the facility's potential emissions of volatile organic compounds (VOC) is greater than twenty-five (25) tons per year, because it was constructed before the January 1, 1980 applicability date.

326 IAC 6-3 (Particulate Emission Limitations from Manufacturing Processes)

This facility is not subject to 326 IAC 6-3-1 (Particulate Emission Limitations from Manufacturing Processes), because the recreational vehicle surface coating facility uses less than five (5) gallons of coating per day. Any change that would increase the coating usage to greater than five (5) gallons per day requires prior approval from IDEM, OAQ.

326 IAC 8-2-9 (Miscellaneous Metal Coating)

The recreational vehicle surface coating facility is not subject to 326 IAC 8-2-9 because the facility does not paint metal parts.

326 IAC 8-2-2 (Automobile and Light Duty Truck Coating Operations)

This source is not subject to 326 IAC 8-2-2 because the recreational vehicle surface coating facility does not surface coat automobile and light duty truck bodies. It surface coats prefinished lumber and plastic surfaces.

326 IAC 8-2-12 (Wood Furniture and Cabinet Coating)

This source is not subject to 326 IAC 8-2-12 because the recreational vehicle surface coating facility does not surface coat wood furnishings. It surface coats prefinished lumber and plastic surfaces.

### State Applicability - 2.0 MMBtu/hr Natural Gas Fired Boiler

#### 326 IAC 6-2-3(a) (Particulate Emission Limitations for Sources of Indirect Heating)

Pursuant to 326 IAC 6-2-3, the particulate emissions from the 2.0 MMBtu/hr boiler, which was existing and in operation before September 21, 1983 shall not exceed the particulate emission rate calculated using the following equation:

$$Pt = \frac{(C \times a \times h)}{76.5 \times Q^{0.75} \times N^{0.25}} = \frac{(50) (0.67) (25)}{76.5 \times (2)^{0.75} \times (1)^{0.25}}$$
$$Pt = 6.51 \text{ lbs/MMBtu}$$

Where:

Pt	=	Emission rate limit (lbs/MMBtu)
C	=	50 ug/m <sup>3</sup>
a	=	Plume rise factor (0.67)
Q	=	Total source heat input capacity rating in million Btu per hour (2.0 MMBtu/hr)
N	=	Number of stacks
h	=	Stack height (ft)

However, 326 IAC 6-2-3(e) states that boilers constructed after June 8, 1972 shall in no case exceed 0.6 pounds of particulate matter per MMBtu heat input. Since the 0.6 pounds particulate matter per MMBtu emission limit is less than the limit calculated using the equation, the 2.0 MMBtu/hr boiler shall be limited to 0.6 pounds of particulate matter per MMBtu heat input.

### Conclusion

The operation of this recreational vehicle manufacturing plant shall be subject to the conditions of the attached proposed Minor Source Operating Permit 039-16466-00470.



**Appendix A: Emission Calculations**  
**Natural Gas Combustion Only**  
**MMBTU/HR<100**  
**Boiler**

**Company Name:** Forest River, Inc., Goshen  
**Address City IN Zip:** 1402 Lincolnway, Goshen, IN 46527  
**MSOP:** 039-16466  
**Plt ID:** 039-00470  
**Reviewer:** ERG/SD  
**Date:** 26-Nov-02

Heat Input Capacity  
MMBtu/hr

2.0

Potential Throughput  
MMCF/yr

17.5

Pollutant						
Emission Factor in lb/MMCF	PM*	PM10*	SO2	NO <sub>x</sub>	VOC	CO
	7.6	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.07	0.07	0.01	0.88	0.05	0.74

\*PM and PM<sub>10</sub> emission factors are filterable and condensable PM and PM<sub>10</sub> combined.

\*\*Emission Factors for NO<sub>x</sub>: Uncontrolled = 100, Low NO<sub>x</sub> Burner = 50, Low NO<sub>x</sub> Burners/Flue gas recirculation = 32

### **Methodology**

All Emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF - 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (AP-42 Supplement D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See next page for HAPs emissions calculations.

**Appendix A: Emission Calculations**  
**Natural Gas Combustion Only**  
**MMBTU/HR<100**  
**Boiler**

**Company Name:** Forest River, Inc., Goshen  
**Address City IN Zip:** 1402 Lincolnway, Goshen, IN 46527  
**MSOP:** 039-16466  
**Plt ID:** 039-00470  
**Reviewer:** ERG/SD  
**Date:** 26-Nov-02

**HAPs - Organics**

Emission Factor in lb/MMCF	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	1.840E-05	1.051E-05	6.570E-04	1.577E-02	2.978E-05

**HAPs - Metals**

Emission Factor in lb/MMCF	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	4.380E-06	9.636E-06	1.226E-05	3.329E-06	1.840E-05

Methodology is the same as previous page.

The five highest organic and metal HAPs emission factors are provided above.  
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emissions Calculations  
VOC and Particulate  
From Surface Coating Operations**

**Company Name:** Forest River, Inc., Goshen  
**Address City IN Zip:** 1402 Lincolnway, Goshen, IN 46527  
**MSOP:** 039-16466  
**Pit ID:** 039-00470  
**Reviewer:** ERG/SD  
**Date:** 26-Nov-02

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	PM/PM10 Potential (ton/yr)	lb VOC/gal solids	*Transfer Efficiency
Adhesive 676	6.3	79.20%	0.0%	79.2%	0.0%	24.00%	0.04000	1.5	4.99	4.99	0.30	7.19	1.31	0.19	20.79	45%
ABS Cement	7.1	100.00%	0.0%	100.0%	0.0%	0.00%	0.02450	1.5	7.09	7.09	0.26	6.25	1.14	0.00	NA	100%
ABS Cleaner	6.6	95.00%	0.0%	95.0%	0.0%	0.00%	0.00222	1.5	6.28	6.28	0.02	0.50	0.09	0.00	NA	100%
Adhesive 8011	8.4	0.60%	0.0%	0.6%	0.0%	80.00%	1.08000	1.5	0.05	0.05	0.08	1.95	0.36	0.00	0.06	100%
Alpha Sealant	8.3	20.00%	20.0%	0.0%	20.0%	80.00%	0.42000	1.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100%
Aliphatic Resin Adhesive	8.4	30.00%	30.0%	0.0%	30.0%	30.00%	0.40990	1.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100%
Brake Cleaner	10.8	100.00%	0.0%	100.0%	0.0%	0.00%	0.03000	1.5	10.83	10.83	0.49	11.70	2.13	0.00	NA	45%
Spray Silicone	7.0	92.00%	0.0%	92.0%	0.0%	9.00%	0.01000	1.5	6.44	6.44	0.10	2.32	0.42	0.02	71.56	45%
Geocell 2300	7.9	35.00%	0.0%	35.0%	0.0%	65.00%	1.82300	1.5	2.77	2.77	7.58	181.92	33.20	0.00	4.26	100%
Hyplus Pipe Dope	8.4	50.00%	0.0%	50.0%	0.0%	50.00%	0.00084	1.5	4.20	4.20	0.01	0.13	0.02	0.00	8.40	100%
Mineral Spirits	8.5	100.00%	0.0%	100.0%	0.0%	0.00%	0.10600	1.5	8.51	8.51	1.35	32.47	5.93	0.00	NA	100%
MB 2010 Adhesive	9.3	57.40%	0.0%	57.4%	0.0%	42.00%	0.21300	1.5	5.36	5.36	1.71	41.07	7.49	0.00	12.75	100%
Polyster Glazing Putty	15.0	25.00%	0.0%	25.0%	0.0%	70.00%	0.00011	1.5	3.75	3.75	0.00	0.01	0.00	0.00	5.36	100%
Rector Seal Sealant	11.0	20.00%	20.0%	0.0%	20.0%	20.00%	0.00000	1.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100%
Silicaflex 252	9.8	5.90%	0.0%	5.9%	0.0%	94.00%	0.75000	1.5	0.58	0.58	0.65	15.61	2.85	0.00	0.62	100%
Silicaflex 221	10.0	6.00%	0.0%	6.0%	0.0%	93.00%	0.42000	1.5	0.60	0.60	0.38	9.07	1.66	0.00	0.65	100%
Spray'n Go Paint	6.1	86.10%	0.0%	86.1%	0.0%	15.00%	0.18800	1.5	5.24	5.24	1.48	35.49	6.48	0.58	34.96	45%
Sta-put Adhesive	6.5	80.00%	0.0%	80.0%	0.0%	20.00%	0.00044	1.5	5.21	5.21	0.00	0.08	0.02	0.00	26.04	65%
Denatured Alcohol	6.7	100.00%	0.0%	100.0%	0.0%	0.00%	0.00011	1.5	6.70	6.70	0.00	0.03	0.00	0.00	NA	100%
Duraseal Clear	12.5	0.00%	0.0%	0.0%	0.0%	100.00%	0.04600	1.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100%
Oak Stain	7.3	63.00%	0.0%	63.0%	0.0%	39.00%	0.00010	1.5	4.57	4.57	0.00	0.02	0.00	0.00	11.73	100%

**State Potential Emissions**

**14.41      345.80      63.11      0.786**

\* Material applied with HVLP guns

**METHODOLOGY**

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) \* Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) \* Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hr/yr) \* (1 ton/2000 lbs)

Particulate Potential Tons per Year = Maximum (units/hour) \* Gal of Material (gal/unit) \* Density (lbs/gal) \* (1- Weight % Volatiles) \* (1-Transfer efficiency) \*(8760 hrs/yr) \*(1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)

**Appendix A: Emission Calculations  
HAP Emission Calculations  
From Surface Coating Operations**

**Company Name:** Forest River, Inc.,Goshen  
**Address City IN Zip:** 1402 Lincolnway, Goshen, IN 46527  
**MSOP:** 039-16466  
**PII ID:** 039-00470  
**Permit Reviewer:** ERG/SD  
**Date:** 26-Nov-02

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Hexane	Weight % MIKB	Weight % Xylene	Weight % Mek	Weight % Toluene	Weight % Trichloro 1,1,1	Weight % Styrene	Weight % MDI	Weight % Ethylbenzene	Weight % Methanol	Weight % Cumene	Hexane Emissions (ton/yr)	MIKB Emissions (ton/yr)	Xylene Emissions (ton/yr)	MEK Emissions (ton/yr)	Toluene Emissions (ton/yr)	Trichloro 1, 1, 1 Emissions (ton/yr)	Styrene Emissions (ton/yr)	MDI Emissions (ton/yr)	Ethylbenzene Emissions (ton/yr)	Methanol Emissions (ton/yr)	Cumene Emissions
Adhesive 676	6.3	0.04000	1.500	40.00%											0.66										
ABS Cement	7.1	0.02450	1.500				75.000%											0.8559							
ABS Cleaner	6.6	0.00222	1.500				95.000%											0.0916							
Adhesive 8011	8.4	1.08000	1.500																						
Alpha Sealant	7.3	0.42000	1.500																						
Aliphatic Resin Adhesive	9.5	0.40990	1.500																						
Oak Stain	7.3	0.00010	1.500		11.26%		11.580%	34.710%								0.0005		0.0006	0.002						
Brake Cleaner	10.8	0.03000	1.500						99.00%											2.113					
Spray Silicone	7.0	0.01000	1.500																						
Denatured Alcohol	6.7	0.00011	1.500																						
DuraSeal Clear	12.5	0.04600	1.500																						
Geocell 2300	7.9	1.82300	1.500			7.000%								3.00%			6.64								2.846
Hyplus Pipe Dope	8.4	0.00084	1.500																						
Mineral Spirits	8.5	0.10600	1.500																						
MB 2010 Adhesive	9.3	0.21300	1.500					5.000%											0.653						
Polyster Glazing Putty	15.0	0.00011	1.500							25.00%											0.003				
Rector Seal Sealant	11.0	0.00167	1.500																						
Silcaflex 252	9.8	0.75000	1.500			2.000%					0.03%						0.97					0.014			
Silcaflex 221	10.0	0.42000	1.500			5.000%						4.00%					1.38						1.104		
Spray'n Go Paint	6.1	0.18800	1.500									5.00%											0.376		
Sta-put Adhesive	6.5	0.00044	1.500	35.00%											0.01										
Lacquer Thinner	7.2	0.00067	1.500		35.00%		35.00%						9.50%			0.0110		0.0110						0.003	

Total State Potential Emissions

Individual HAP (Xylene): **8.99**  
**Combined Total HAPs = 17.74**

0.67    0.01    8.99    0.96    0.65    2.11    0.003    0.01    1.48    0.003    2.85

**METHODOLOGY**

HAPS emission rate (tons/yr) = Density (lb/gal) \* Gal of Material (gal/unit) \* Maximum (unit/hr) \* Weight % HAP \* 8760 hrs/yr \* 1 ton/2000 lbs

**Appendix A: Emissions Calculations**  
**Particulate Emissions**  
**From Cabinet Woodworking Shop Operation**

**Company Name:** Forest River, Inc., Goshen  
**Address City IN Zip:** 1402 Lincolnway, Goshen, IN 46527  
**MSOP:** 039-16466  
**Plt ID:** 039-00470  
**Reviewer:** ERG/SD  
**Date:** 26-Nov-02

**POTENTIAL TO EMIT IN TONS PER YEAR USING AMOUNT OF SAWDUST COLLECTED**

	Hours of Operation hrs/week	Amount of Sawdust Collected		Estimated Maximum Emission	
		lbs/week	lbs/hr	(lbs/hr)	(tons/yr)
<b>PM/PM10</b>	45	25	0.556	0.83	3.65

\* Source collects 25 pounds of sawdust each week during a 45 hour work week. Assuming that only 2/3 is collected, the lbs/hr emission rate is 0.833 lbs/hr.

**Methodology**

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PM/PM10 (tons/yr) = Sawdust collected (lbs/week) \* 1week/45 hours \* 1/(2/3) \* 8760 hrs/ yr \* 1 ton/2000 lbs

**Appendix A: Emission Calculations  
Emission Summary**

**Company Name:** Forest River, Inc., Goshen  
**Address City IN Zip:** 1402 Lincolnway, Goshen, IN 46527  
**MSOP:** 039-16466  
**Pit ID:** 039-00470  
**Permit Reviewer:** ERG/SD  
**Date:** 26-Nov-02

Source	PM	PM10	SO <sub>2</sub>	NOx	VOC	CO	HAP	
							Single	Combined
Cabinet Shop	3.65	3.65						
Boiler	0.07	0.07	0.01	0.92	0.05	0.77		
Surface Coating	0.79	0.79	0	0	63.1	0	8.99	17.7
SUM	4.51	4.51	0.01	0.92	63.15	0.77	8.99	17.7